

RESPONSE UNDER 37 C.F.R. § 1.111  
Appln. No. 09/603,615  
Docket No. Q59502

**Claim Rejections Under 35 U.S.C. § 103**

Claims 1-11 and 18-19 are rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Kawamura (US 6,360,287) in view of newly cited Lo et al. (US 6,324,178). Claims 12-16 and 20 are rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Kawamura in view of Lo and newly cited Han (US 6,351,465).

***Claim 1***

Applicant respectfully traverses the rejection of claim 1 at least because the combination of Kawamura and Lo does not teach or suggest all of the claim recitations. For example, the combination of Kawamura and Lo does not teach or suggest the claimed method including the step of checking whether the length of a packet transferred from an upper layer to a node of the high speed serial bus is no less than a predetermined length; allocating a channel of the bus and transferring data through the channel by an isochronous transfer service when it is determined that the length of the packet is no less than a predetermined length; and transferring the data by an asynchronous transfer service when it is determined that the length of the packet is less than a predetermined length.

Kawamura discloses a method and apparatus for asynchronous communication over a standard data bus. The Background of the Invention section of Kawamura teaches that small amounts of data are transmitted using asynchronous communication, while other types of information are transmitted using isochronous communication. Kawamura at 1:29-50 & 1:65-2:9.

As an initial matter, the Examiner again asserts that it can be inferred from Kawamura's statements regarding "small" lengths of data, that in Kawamura "it is determined that the length

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of the packet is no less than a predetermined length.” *See* Office Action dated July 8, 2004 at paragraph 3 (page 2).

Although Kawamura discloses that the data that is sent using asynchronous communication is small relative to the data transmitted using isochronous communication, there is no teaching or suggestion of actually checking whether the length of a packet is no less than a predetermined length. The mere fact that the smaller data packets of Kawamura are transmitted asynchronously does not mean that the length is checked. In fact, Kawamura appears to teach that the checking as to whether data is transferred asynchronously or isochronously depends on the type of data file. *See* Kawamura at 2: 3-9.

In addition, the Examiner acknowledges that Kawamura does not explicitly disclose “checking the length of the data packets to decide if the packet is ‘small.’” Office Action dated July 8, 2004 at paragraph 3 (page 2). Therefore, the Examiner looks to the data transfer method of Han in an attempt to make up for this deficiency.

Lo discloses a method that allows data transfer between domains of different data formats. For example, in an example discussed in Lo, there is a transfer of data from an IEEE 1394 serial communication domain to an Ethernet communication domain. *See* Lo at 5:62-6:15. Although Lo discloses determining the length of a data payload section 324 of a data packet. *See* Lo at. The length of the data payload section 324 is determined in order to indicate the transmission terminal point of the data packet. *See* Lo at 8:28-31 & 6:48-50.

However, Lo does not teach or suggest either transferring data through the channel by an isochronous transfer service when it is determined that the length of the packet is no less than a

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predetermined length, or transferring the data by an asynchronous transfer service when it is determined that the length of the packet is less than a predetermined length.

The Examiner asserts that one of ordinary skill in the art would have been motivated to modify Kawamura to check the length of the data packet in order to “determine more accurately whether a packet should be transferred over the isochronous or asynchronous method” and that “it would be a waste of efficiency to send certain larger packets over the asynchronous method when they could be more efficiently sent over the isochronous method.” See Office Action dated July 8, 2004 at paragraph 3 (page 3). However, the Examiner’s position is wholly unsupported by any objective evidence in the applied references.<sup>1</sup> Neither Kawamura nor Lo discloses checking the length of a data packet in order to determine whether the data is to be transferred isochronously or asynchronously.

Furthermore, if the Examiner has intended to take official notice of the asserted motivation to modify Kawamura, Applicant respectfully requests that the Examiner provide specific objective evidence of such motivation. See MPEP §2144.03.

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<sup>1</sup> The USPTO is held to a rigorous standard when trying to show that an invention would have been obvious in view of the combination of two or more references. See, *In re Sang Su Lee*, 61 USPQ2d 1430 (Fed. Cir. 2002), citing, e.g., *In re Dembiczak*, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) (“Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references.”). In *Lee*, the Federal Circuit further emphasized that the “need for specificity pervades this authority.” (*Lee* at 1433 (citing *In re Kotzab*, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000) (“particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed”))). The factual inquiry into whether to combine references “must be based on objective evidence of record.” *Lee* at 1433.

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As such, Applicant respectfully requests that the Examiner withdraw the rejection of independent claim 1 for the reasons discussed above.

***Claims 2-7 and 18***

Applicant respectfully requests that the Examiner withdraw the rejection of dependent claims 2-7 and 18 at least because of their dependency from claim 1.

In addition, with respect to dependent claim 2, Applicant respectfully submits that the rejection is deficient at least because the Examiner has provided no objective evidence that it would have been obvious to set the small amount as the maximum transfer unit of the TCP/IP protocol. The Examiner's unsupported statement is not objective evidence of any motivation or suggestion to modify Kawamura in the asserted manner.

In addition, with respect to dependent claim 18, Applicant respectfully submits that the rejection is deficient at least because the Examiner has provided no objective evidence that it would have been obvious to determine whether a channel is allocated to an entry determining whether a channel is allocated to an entry information of said packet, wherein said step of checking whether the length of said packet is no less than a predetermined length is performed if no channel is allocated based on said entry information of said packet.

***Claim 8***

Furthermore, with respect to independent claim 8, Applicant respectfully traverses the rejection at least because the combination of Kawamura and Lo does not teach or suggest all of the claim recitations. For example, the combination of Kawamura and Lo does not teach or suggest the claimed method including the step of determining whether the length of a data packet

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is no less than  $N \times \text{MTU}$ , wherein  $N$  is a positive number which is smaller than 1 and MTU is the maximum transfer unit.

The rejection of claim 8 is deficient at least because there is no teaching or suggestion in Kawamura of the claimed method including a determination as to the lengths of the data packets, as is discussed above with respect to claim 1.

In addition, the Examiner has provided no objective evidence that it would have been obvious to modify Kawamura in the asserted manner. For example, Lo merely teaches determining the length of the data payload section 324 in order to indicate the transmission terminal point of the data packet.

Therefore, Applicant respectfully requests that the Examiner withdraw the rejection of independent claim 8.

***Claims 9-11 and 19***

Applicant also respectfully requests that the Examiner withdraw the rejection of dependent claims 9-11 and 19 at least because of their dependency from claim 8.

In addition, with respect to dependent claim 19, Applicant respectfully submits that the rejection is deficient at least because the Examiner has provided no objective evidence that it would have been obvious to determine whether a channel is allocated to an entry determining whether a channel is allocated to an entry information of said packet, wherein said step of checking whether the length of said packet is no less than a predetermined length is performed if no channel is allocated based on said entry information of said packet.

***Claim 12***

Finally, with respect to independent claim 12, Applicant respectfully traverses the rejection at least because the combination of Kawamura, Lo, and Han does not teach or suggest all of the claim recitations. For example, the combination of Kawamura, Lo, and Han does not teach or suggest the claimed method including the step of determining whether a data packet whose length is a maximum transfer unit (MTU) is received no less than a predetermined number of times for a predetermined time.

Han discloses a system for routing packets in which cut-through paths are set up when a number of received packets that have a same IP address and QOS type are received a threshold number of times. According to Han's system, a counter for determining when to create a cut-through path is incremented whenever a packet has the same IP address and QOS type and is decremented when a unit of time passes without a packet has the same IP address and QOS type. See Han at 7:3-19. The cut-through path provides a virtual path for packets having the same IP address and QOS type.

However, Han does not teach or suggest determining whether a data packet whose length is the MTU is received less than a predetermined number of times or transferring data isochronously or asynchronously based on the determination.

Although Han's system includes counting packets having the same IP address and QOS type, the claimed invention involves more than merely counting. Instead, the invention requires counting the number times a data packet whose length is a MTU is received and transferring data isochronously or asynchronously based on the determination. There is no objective evidence of a motivation or suggestion in any of the applied references to instead determine the number

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times a data packet whose length is a MTU is received and to transfer data isochronously or asynchronously based on the determination.

Therefore, Applicant respectfully requests that the Examiner withdraw the rejection of independent claim 12.

***Claims 13-16 and 20***

Applicant respectfully requests that the Examiner withdraw the rejection of dependent claims 13-16 and 20 at least because of their dependency from claim 12.

In addition, with respect to dependent claim 20, Applicant respectfully submits that the rejection is deficient at least because the Examiner has provided no objective evidence that it would have been obvious to determine whether a channel is allocated to an entry determining whether a channel is allocated to an entry information of said packet, wherein said step of checking whether the length of said packet is no less than a predetermined length is performed if no channel is allocated based on said entry information of said packet.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited.

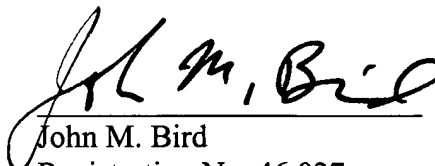
**Request for Interview**

Applicant's representative has attempted to arrange an interview with the Examiner and Supervisor, but has been unable to reach the Examiner. Therefore, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

  
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**23373**

CUSTOMER NUMBER

Date: October 7, 2004